

Seasonal variations of harpacticoid copepod and size-fractionated abundances in relation to environmental changes in Setiu Wetland

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**Abstract**  
Aim: Harpacticoid copepods, an important component of fauna in marine environment, play a vital role in aquatic food webs as a source of food for other member of benthic community and the juveniles of predator fish species. Recent data on benthic plankton and nekton composition in coastal wetland of Setiu are useful and important in understanding the interaction between these organisms at different seasons. This maintains the diversity of fish in Setiu Wetland which is a major factor in developing the Wetland as a place for ecotourism and recreational fishing activity. The effort will directly or indirectly benefit the fisheries community living within the wetland which depends on the fisheries sector.

Methodology: Meiobenthos samples were collected by Ponar grab. The samples were fixed in 10% formalin and 1% Rose Bengal. Content of each specimen bottle was filtered through 102 mu m and 62 mu m sieve shaker, respectively. Harpacticoid were individually hand sorted and counted under dissecting microscope. Data obtained for harpacticoid composition were analyzed using Kruskal-Wallis test.

Results: Seasonal variation of harpacticoid composition for 100 mu m sizes recorded the highest number during pre-monsoon with 3591.84 ind 10 cm(-2) followed by monsoon, 2569.68 ind 10 cm(-2) and post-monsoon 1545.84 ind 10 cm(-2), respectively. Salinity is the main physical parameters that can be attributed to the plankton diversity and acts as limiting factor that influences the distribution of plankton community. Significantly, harpacticoid copepod steadily increased during post-monsoon with rising trend of salinity verified the environmental influences on zooplankton abundances.

Interpretation: The results of this study indicated that different season demonstrated major impact on harpacticoid composition which may effect the availability of food source towards the small fishes as a live feed.

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**Author Keywords:** [Climate change](#); [Harpacticoid copepod](#); [Seasonal composition](#); [Setiu Wetland](#); [Tropical zooplankton](#)  
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